

The following is an overview of the irrigation training UCD Extension Specialists will provide to County Agricultural Commissioner's staff:

Section I – Overview of Ground Water Protection Areas Program

- 1. Ground water contamination**
 - Chemicals
 - Locations
 - Causes
- 2. Ground water protection areas**
 - Objectives
 - Runoff areas
 - Leaching areas
- 3. Management Practices**
 - Description/goals of mitigation program
 - Requirements/restrictions on permittees

Section II – Irrigation System Performance

- 1. Concepts of uniformity and irrigation efficiency**
 - Definitions
 - Factors affecting uniformity
 - Factors affecting efficiency
- 2. Furrow irrigation**
 - Factors affecting distribution uniformity (DU) and irrigation efficiency (IE)
 - Simple method for estimating DU
 - Methods for improving DU and IE
- 3. Flood or border irrigation**
 - Factors affecting DU and IE
 - Simple method for estimating DU
 - Methods for improving DU and IE
- 4. Sprinkler irrigation**
 - Factors affecting DU and IE
 - Simple method for estimating DU
 - Methods for improving DU and IE
- 5. Microirrigation**
 - Factors affecting DU and IE
 - Simple method for estimating DU
 - Methods for improving DU and IE
 - Chemigation

Section III – Managing Irrigation Water

1. Management concepts

- Evapotranspiration (ET)
- ET and yield relationships
- Estimating crop ET using historical reference crop ET and crop coefficients
- Soil moisture
 - ♦ Content – field capacity, 15-bar, allowable depletion
 - ♦ Tension
- When should irrigations occur?

2. Developing an irrigation schedule for furrow, flood, and sprinkler irrigation using crop ET

- Procedure
- Worksheet exercise

3. Developing an irrigation schedule for microirrigation using crop ET

- Procedure
- Worksheet exercise

4. Monitoring soil moisture

- Objectives
- Feel method
- Tensiometers – installation and use
- Resistance blocks – installation and use
- Dielectric moisture sensors – installation and use
- Neutron moisture meter – installation and use
- Examples of using soil moisture sensors and their interpretation

5. Plant-based measurements

- Pressure chamber
- Infrared thermometer

6. Measuring flow rate

- Types of flow meters
- Installation recommendations
- Calculation the amount of applied water

Section IV – Records

1. Types and examples of records

- Net irrigation requirement – amount
- Applied water – amount and time of application
- Irrigation efficiency
- Chemical applications – amount and time of application

2. Using records to assess irrigation water management